

CLAIMS

What is claimed is:

1. A method of repairing a tear in body tissue comprising:
 - inserting a needle containing a retaining head therein from a first insertion position on a first outer surface of the body tissue, through the tear and to a second outer surface of the body tissue;
 - ejecting said retaining head from said insertion needle, said retaining head grasping said second outer surface in an engaged position;
 - advancing an anchor coupled to said retaining head from a second insertion position on said first outer surface of the body tissue to a position at least through a portion of the tear, said anchor coupled to said retaining head by a flexible member that extends a distance along said first outer surface of the body tissue from said first insertion position to said second insertion position.
2. The method of claim 1 wherein ejecting said retaining head from said insertion needle comprises:
 - advancing a plunger within said needle toward a distal opening of said needle;
 - deploying said retaining head from said distal opening; and
 - removing said needle from said body tissue at said first insertion position.

3. The method of claim 2 wherein advancing a plunger further comprises:

guiding said flexible member along a longitudinal slot disposed along said needle.

4. The method of claim 1 wherein advancing an anchor comprises:
locating a distal end of a hollow tube on said second insertion position, said hollow tube containing said anchor therein; and

advancing a plunger within said hollow tube a predetermined distance toward said distal end thereby advancing said anchor to a desired location.

5. The method of claim 4 wherein advancing a plunger further comprises:

guiding said flexible member along a longitudinal slot disposed along said hollow tube.

6. The method of claim 4 wherein locating a distal end of a hollow tube comprises:

locating said distal end of said hollow tube a predetermined offset distance from said first insertion position whereby advancing said anchor to said desired location provides a taught flexible member between said first and second insertion position.

7. The method of claim 1 wherein ejecting said retaining head and advancing an anchor are simultaneously performed.

8. An apparatus for repairing a tear in body tissue comprising:
a retaining head for grasping a retaining surface of the body tissue;
an anchor for being implanted at a position at least through a portion of the tear; and
a flexible member coupled to and extending between said retaining head and said anchor, said flexible member having an intermediate portion extending along an insertion surface of the body tissue.

9. The apparatus of claim 8 wherein said anchor is disposed in the body tissue at a location between said tear and said retaining surface, said flexible member passing through the tear.

10. The apparatus of claim 8 wherein said flexible member urges said anchor toward said insertion surface of the body tissue and urges said insertion surface of the tissue toward said anchor thereby urging opposite sides of the tear to contact.

11. The apparatus of claim 8 wherein said flexible member urges said retaining head toward said insertion surface of the body tissue and urges said insertion surface of the tissue toward said retaining head thereby urging opposite sides of the tear to contact.

12. The apparatus of claim 8 wherein said flexible member is further defined by a first portion extending between said anchor and said intermediate portion and a second portion extending between said retaining member and said intermediate portion, said first portion extending substantially parallel to said second portion.

13. The apparatus of claim 12 wherein said intermediate portion of said flexible member extends substantially perpendicular to said first and second portion of said flexible member.

14. The apparatus of claim 8 wherein said anchor includes radially extending retaining members extending therefrom.

15. The apparatus of claim 8, further comprising:
a needle insertable through a first insertion position on said insertion surface of the body tissue to said retaining surface of the body tissue;
and

an advancement member slidably disposed in said needle for deploying said retaining head into an engaged position at said retaining surface of the body tissue.

16. The apparatus of claim 9, further comprising:
 - a hollow tube for positioning at a second insertion position on insertion surface of the body tissue; and
 - an advancement member slidably disposed in said hollow tube for advancing said anchor to a position at least partially through the tear.
17. The apparatus of claim 16 wherein said needle and said hollow tube are rigidly coupled.
18. The apparatus of claim 8 wherein said flexible member includes a suture.

19. A system for repairing a tear in body tissue comprising:
- an implant having a retaining head for grasping a retaining surface of the body tissue;
 - an anchor for being implanted at a position at least through a portion of the tear;
 - a flexible member coupled to and extending between said retaining head and said anchor; and
 - an instrument having a needle cooperating with said retaining head, said needle insertable through a first insertion position on an insertion surface of the body tissue to said retaining surface of the body tissue;
 - a first advancement member slidably disposed in said needle for deploying said retaining head into an engaged position at said retaining surface of the body tissue;
 - a hollow tube cooperating with said anchor, said hollow tube positionable at a second insertion position on said insertion surface of the body tissue; and
 - a second advancement member slidably disposed in said hollow tube for advancing said anchor to a position at least partially through the tear.